

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number  
**WO 2005/094170 A3**

(51) International Patent Classification:  
**B41J 2/15** (2006.01)

(21) International Application Number:  
PCT/IL2005/000326

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
161211 1 April 2004 (01.04.2004) IL  
161210 1 April 2004 (01.04.2004) IL

(71) Applicant (for all designated States except US):  
**HEWLETT PACKARD INDUSTRIAL PRINTING LTD.** [IL/IL]; 5C HATZORAN STREET, NEW INDUSTRIAL AREA, 42505 NETANYA (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KOREM, Aharon** [IL/IL]; 2 Ayelet Chen, Apt. 13, 46370 Hertzlia (IL). **DVORI, Yaron** [IL/IL]; 39 Tabenkin Street, 53620 Givataim (IL). **YAKUBOV, Igor** [IL/IL]; 113 Bar Kochba Street, 46370 Hertzlia (IL). **GANI, Arnon** [IL/IL]; 7 Hamifras Street, Apt. 1., 70800 Gan Yavne (IL).

(74) Agent: **SANFORD T.COLB & CO.**; P.O. Box 2273, Rehovot 76122 (IL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

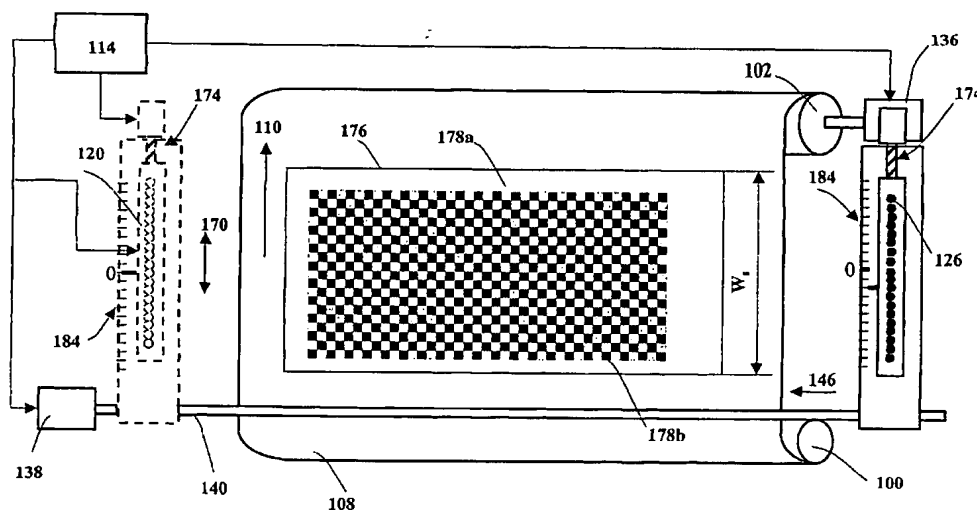
**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
14 December 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METHOD OF PRINTING ON LARGE FORMAT FLEXIBLE SUBSTRATE AND PRINTING APPARATUS



(57) Abstract: The present invention discloses a method of multi pass inkjet printing (120) on wide format flexible substrates (108) where errors in flexible substrate positions are corrected by adapting the geometry (190) and position of the next printed swath to the geometry (190) of the adjacent earlier printed image swath.

WO 2005/094170 A3

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL05/00326

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: B41J 2/15( 2006.01)

USPC: 347/12,14,16,19,41

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 347/12, 14, 16, 19, 41

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/0087529 A1 (Tayuki) 27 April 2006 (27.04.2006), columns 2-5	1-26
A	US 6,532,026 B2 (Takahashi et al.) 11 March 2003 (11.03.2003)	1-26

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

23 August 2006 (23.08.2006)

Date of mailing of the international search report

02 OCT 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Lamson Nguyen

Telephone No. 571-272-2259

Copy for the designated Office (DO/EP)  
PATENT COOPERATION TREATY

PCT/IL2005/000326

31

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE

(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

SANFORD T.COLB & CO.  
P.O. Box 2273  
Rehovot 76122  
Israel

Date of mailing (day/month/year) 28 June 2006 (28.06.2006)	
Applicant's or agent's file reference Doc 107-110	IMPORTANT NOTIFICATION
International application No. PCT/IL2005/000326	International filing date (day/month/year) 23 March 2005 (23.03.2005)

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☒ the agent ☐ the common representative

Name and Address

BRONSTEIN, Rafi  
c/o Scitex Vision Ltd.  
5C Hatzoran Street, P.O. Box 8743  
New Industrial Area  
42505 Netanya Israel

State of Nationality

State of Residence

Telephone No.

+972-9-892-4063

Facsimile No.

+972-9-892-4900

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person ☒ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address

SANFORD T.COLB & CO.  
P.O. Box 2273  
76122 Rehovot  
Israel

EPO-DG 1

05.07.2006

TEAM 14

State of Nationality

State of Residence

Telephone No.

+972-8 945 5122

Facsimile No.

+972-8 949 1040

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☒ the designated Offices concerned  
☒ the International Searching Authority ☐ the elected Offices concerned  
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.71.30	Authorized officer V. Gaillard (Fax 338-71-30) Telephone No. (41-22) 338 9810
--	---

## PATENT COOPERATION TREATY

10/599415

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference Doc 107-110	FOR FURTHER ACTION	See item 4 below
International application No. PCT/IL2005/000326	International filing date ( <i>day/month/year</i> ) 23 March 2005 (23.03.2005)	Priority date ( <i>day/month/year</i> ) 01 April 2004 (01.04.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant HEWLETT PACKARD INDUSTRIAL PRINTING LTD.		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 4 sheets, including this cover sheet.  
  
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application
4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

	Date of issuance of this report 14 November 2006 (14.11.2006)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Authorized officer  Simin Baharlou  e-mail: pt09@wipo.int

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
RAFI BRONSTEIN  
C/O SCITEX VISION LTD.  
5C HATZORAN STREET  
P.O. BOX 8743; NEW INDUSTRIAL AREA  
NETANYA, ISRAEL 42505

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <b>02 OCT 2006</b>	
Applicant's or agent's file reference <b>DOC 107-110</b>	
<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. <b>PCT/IL05/00326</b>	International filing date (day/month/year) <b>23 March 2005 (23.03.2005)</b>
Priority date (day/month/year) <b>01 April 2004 (01.04.2004)</b>	
International Patent Classification (IPC) or both national classification and IPC  IPC: <b>B41J 2/15( 2006.01)</b> USPC: <b>347/14,16,41,15</b>	
Applicant <b>SCITEX VISION LTD.</b>	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☐ Box No. VII      Certain defects in the international application
- ☐ Box No. VIII      Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion  <b>23 August 2006 (23.08.2006)</b>	Authorized officer <b>Lamson Nguyen</b> Telephone No. 703-308-1134
--	---	--

Form PCT/ISA/237 (cover sheet) (April 2005)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/IL05/00326

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper  
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in electronic form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/IL05/00326

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 1-26 YES

Claims NONE NO

Inventive step (IS)

Claims NONE YES

Claims NONE NO

Industrial applicability (IA)

Claims NONE YES

Claims NONE NO

2. Citations and explanations:

Claims 1-26 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an inkjet printer comprising image position detecting means for detecting image on substrate position, and a control computer, characterized in that errors in said image and substrate positions are corrected by adapting the geometry and position of the currently printed swath to the geometry and position of the adjacent earlier printed image swath.

Claims 1-26 meet the criteria set out in PCT Article 33(4), and thus the claims meet industrial applicability because the subject matter claimed can be made or used in industry.